

Case Reference

**SIGNAL TO NOISE RATIO MEASUREMENT IN A COMMUNICATIONS SYSTEM**

**ABSTRACT**

5 The transmission properties of the signal carrier wavelengths in a wavelength  
division multiplexed optical transmission system are equalised with reference to their  
signal to noise ratios at a receiver. Each wavelength transmitter transmits a bit  
sequence as a modulation on the respective wavelength. At the receiver, each  
wavelength modulated with the bit sequence is converted into a corresponding  
10 electrical signal. From a spectrum of that electrical signal, an electrical signal to  
noise ratio is determined. The measurements for the wavelengths are used to  
control adjustment of the individual wavelength transmitters such that the signal to  
noise ratios of the wavelengths are substantially equal.

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